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ECONOMIC RESEARCH AID

SOVIET SEABORNE CARGO CARRIED BY SOVIET AND FOREIGN VESSELS 1956



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This research aid was prepared by



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FOREWORD

Before 1956, sufficient information was not available to develop a detailed breakdown of Soviet seaborne cargo for any postwar year, and a precise estimate of the contribution of the Soviet maritime cargo fleet to the economy of the USSR and of the extent of Soviet reliance on foreign vessels was not possible. A recent Soviet publication, Ekonomika morskogo sudna (The Economics of the Maritime Vessel), however, provides data that make possible a detailed breakdown by sea-basin of Soviet seaborne cargo moved in Soviet and foreign vessels during 1956. Unfortunately the data are not in immediately usable form, and as the methodology accompanying this research aid shows, the compilation of a sizable body of information from other sources and a considerable amount of calculation were required to make the data usable.

This research aid is published as a service to agencies in the intelligence community that are concerned with the movement of Soviet seaborne cargo. In the absence of further official Soviet statistics on the subject, this analysis should be useful as a basis for estimating movement of Soviet seaborne cargo and changes in the pattern of these movements in the years after 1956.

As of 1 January 1960 the series title and designator of all ORR publications were revised. Economic Research Aids, of which this document is the first to be published in 1960, will henceforth be identified by the designator CIA/RR A.ERA, followed by a serial number indicating the year and the number of the publication.

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SOVIET SEABORNE CARGO CARRIED BY SOVIET AND FOREIGN VESSELS*
1956

Summary

In 1956 a total of 64.2 million metric tons** of Soviet cargo moved by sea. Of this quantity, 29 percent represented foreign trade cargo, and 71 percent represented domestic cargo carried between ports of the USSR. In addition, the Soviet maritime cargo fleet carried 3.3 million tons of interport cargo.***

The movement of seaborne domestic cargo in the USSR was preponderantly coastal -- that is, between Soviet ports in the same sea basin. The largest volume moved in the Caspian and Black Sea basins. Forty-five percent of the total volume of coastal cargo consisted of POL, three-fourths of which moved on the Caspian Sea and most of the remainder on the Black Sea. The quantities of coal, ore, and timber in coastal navigation were also significant. All domestic cargo, both coastal and intercoastal,**** was carried by Soviet vessels.

In Soviet foreign trade, Soviet vessels accounted for 46.4 percent of the movement of Soviet cargo, and foreign vessels accounted for the remaining 53.6 percent. Exports were predominant in volume, amounting to two-thirds of the total. POL was the outstanding single export commodity, but exports of coal, timber, and ore were also significant. POL and coal, largely from the European Satellites, were also the leading import commodities. The largest volume of seaborne foreign trade cargo passed through the ports of the Black and Baltic Sea basins.

* The estimates and conclusions in this research aid represent the best judgment of this Office as of 1 December 1959.

** Tonnages of cargo are given in metric tons throughout this research aid.

*** Cargo moving between foreign ports and neither loaded nor unloaded at a port of the USSR.

**** Cargo moved between Soviet ports on different sea basins.

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I. Introduction

The Ministry of the Maritime Fleet of the USSR classifies the foreign and domestic cargo carried by its vessels* by sea basin of origin or destination, by type of cargo, and by class of navigation. The Ministry also applies these systems of classification, in part, to Soviet foreign trade cargo carried in foreign vessels.

Except for that cargo carried between foreign ports by Soviet vessels, the entire volume of cargo carried by the Soviet maritime cargo fleet is classified by sea basin. Import cargo is listed by basin of destination and all other cargo by basin of origin. The five sea basins for which cargo is listed are as follows: (1) the Black Sea basin, under which are included either all cargo or at least the seaborne cargo of vessels of the Soviet Danube State Steamship Company, in addition to movements of Soviet cargo on the Black Sea and the Sea of Azov; (2) the Baltic Sea basin; (3) the Northern basin, which covers the western Arctic area served by the Northern Steamship Company in Arkhangel'sk and the Murmansk Steamship Company in Murmansk; (4) the Far Eastern basin; and (5) the Caspian Sea basin.

The over-all headings that the USSR uses in classifying cargo by type are as follows: (1) liquid cargo, which includes POL and a small amount of fresh water moved on the Caspian Sea; (2) dry cargo; and (3) rafted timber.** Included under dry cargo are specific categories such as coal, timber, grain, and ore.

All cargo is also categorized under three classes of navigation -- (1) domestic coastal, (2) domestic intercoastal, and (3) foreign. The last class includes two important subcategories, foreign trade cargo (import-export) and interport cargo.

This research aid is concerned with the total volume of Soviet seaborne cargo carried by Soviet and foreign vessels during 1956, including detailed categorization of this cargo within the above three classes of navigation. The movement of domestic coastal and intercoastal cargo, which made up 71 percent of the total Soviet seaborne cargo, was with very few exceptions handled by vessels of the Ministry of the Maritime Fleet.*** Soviet seaborne cargo in foreign trade,

* Also referred to in this research aid as the Soviet maritime cargo fleet.

** Henceforth in this research aid all references to dry cargo as an over-all category and to timber will include rafted timber, even though Soviet statisticians treat rafted timber as a separate category.

*** A small volume of maritime cargo is known to be carried by vessels of the Ministry of the Fish Industry and by river vessels operating on Soviet inland waterways that have access to salt water.

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which made up 29 percent of the total Soviet seaborne cargo, was, however, carried in both Soviet and foreign vessels.

II. Cargo Moved by the Soviet Maritime Cargo Fleet, by Class of Navigation

The over-all volume of cargo moved by vessels of the Ministry of the Maritime Fleet in 1956 amounted to 57.7 million tons, 1/* as shown in Table 1.** Of this total, 54.4 million tons was cargo that passed through Soviet ports, and the other 3.3 million tons consisted of interport cargo.*** Although such cargo has not been analyzed in detail in this research aid, readily available information indicates that it included movements primarily associated with the Soviet Bloc -- that is, only a minor number of movements between Free World ports.

Non-Soviet vessels, for their part, handled 9.8 million tons of import or export cargo for the USSR in 1956. No non-Soviet vessels are known to have engaged in Soviet coastal or intercoastal movements in 1956 or in subsequent years.

An important characteristic of the movement of cargo in Soviet vessels in 1956 was the high preponderance of coastal cargo, amounting to about 78 percent of the total. This fact indicates that most cargoes in Soviet vessels traveled relatively short distances, particularly because less than one-sixth of the coastal movement was accounted for by the basin of longest average haul, the Far Eastern basin.

Along the Arctic coast and in many parts of the Soviet Far East, there is as yet no connecting land transport, and maritime service consequently is vital to the economic life of these areas. In most other instances, however, the Soviet maritime cargo fleet performs a service which is parallel to that of land transport but which costs less.

* For serially numbered source references, see Appendix C.

** Table 1 follows on p. 4.

*** Obtained by subtracting the total volume of import-export cargo, 8.5 million tons (from Table 4, p. 8), from the total volume of foreign trade cargo, 11.8 million tons (from Table 1, p. 4).

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Table 1

Volume of Cargo Moved by the Soviet Maritime Cargo Fleet
by Class of Navigation and by Major Type of Cargo
1956

Major Type of Cargo	Million Metric Tons			
	(1)	(2)	(3)	(4)
	Class of Navigation			Total
	Domestic		Foreign <u>a/</u>	
	Coastal	Intercoastal		
Liquid	21.4 <u>b/</u>	0.2 <u>c/</u>	3.3 <u>d/</u>	24.9 <u>e/</u>
Dry	23.7 <u>e/</u>	0.6 <u>f/</u>	8.5 <u>g/</u>	32.8 <u>e/</u>
Total	<u>45.1</u>	<u>0.8</u>	<u>11.8</u>	<u>57.7</u>

a. Including Soviet foreign trade (import-export) cargo and inter-port cargo (between foreign ports).

b. The difference between column (4) and the sum of columns (2) and (3).

c. 2/

d. This figure is the sum of the volumes of foreign trade cargo and interport cargo. See Appendix A, p. 13, below.

e. 3/

f. See Table 3, p. 7, below.

g. The difference between column (4) and the sum of columns (1) and (2).

III. Soviet Seaborne Domestic Cargo*

Most of the seaborne movement of Soviet domestic cargo is coastal, with only a minor proportion being intercoastal.** The total movement in 1956 was 45.9 million tons. The role of this movement in the over-all domestic freight movement for 1956 is shown below 4/:

* See Figure 1, following p. 4.

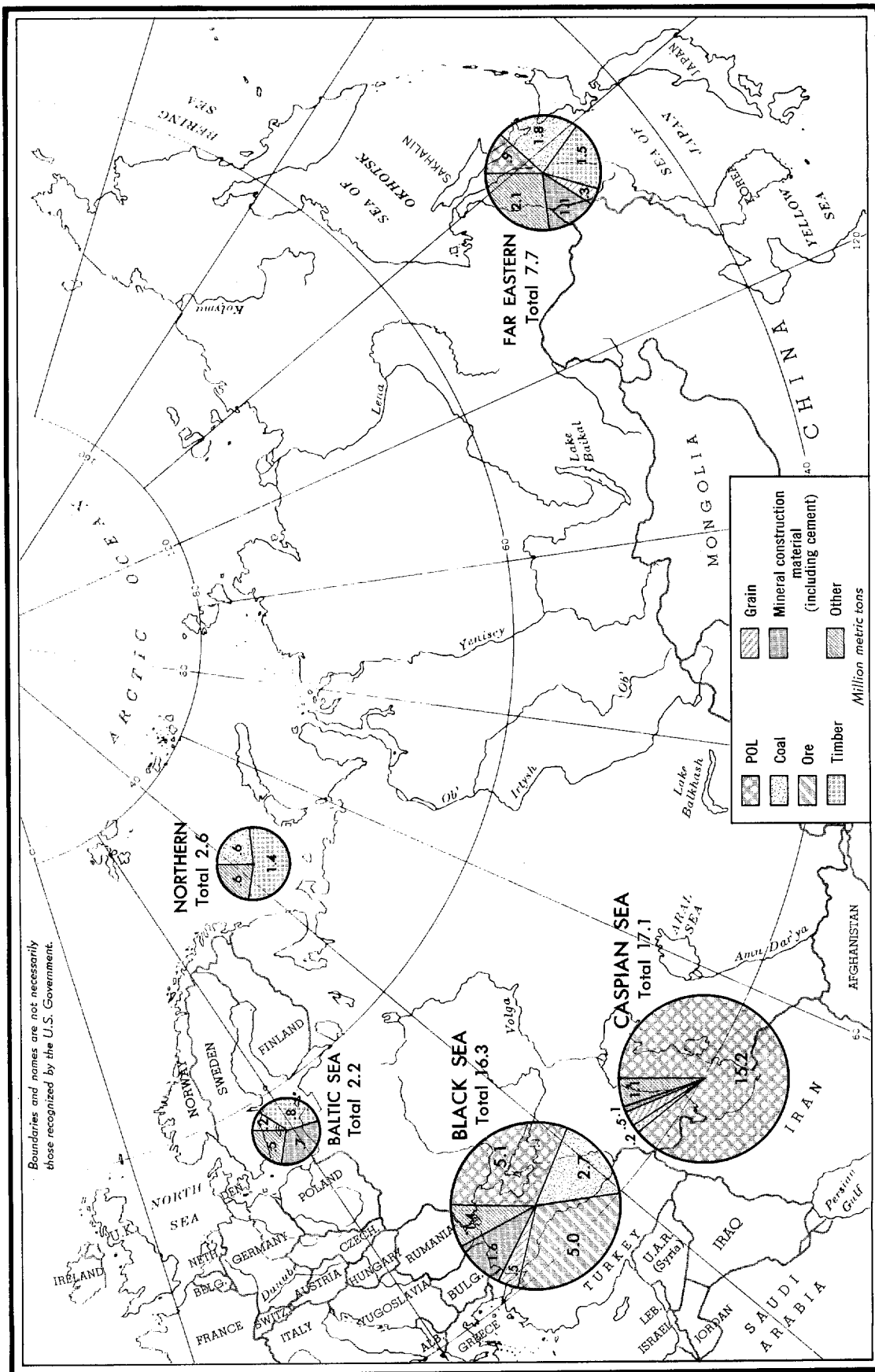
** Coastal movements occur between Soviet ports in the same sea basin, and intercoastal movements occur between Soviet ports in different sea basins -- for example, from Odessa to Vladivostok.

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Figure 1

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Volume of Soviet Seaborne Domestic Cargo, by Sea Basin and by Specific Type of Cargo, 1956



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<u>Type of Transportation</u>	<u>Million Metric Tons</u>
Railroad	1,371.0
Highway	4,200.9
Inland waterway	146.8
Coastal and intercoastal	45.9
Total	<u>5,763.6</u>

Table 2* shows the distribution of the volume of coastal movement among the sea basins by specific type of cargo.

The preponderance of petroleum in the Black and Caspian Sea basins was sufficient to account for 45 percent of the entire tonnage of cargo loaded for coastal movement in the USSR. Three-fourths of the coastal movement of POL in 1956 took place in the Caspian basin, and all but a small part of the remainder took place in the Black Sea basin. The size of the movement of POL largely accounts for the fact that the Black and Caspian Sea basins contributed more than two-thirds of the total movement of cargo in coastal navigation.

The next most important commodity in seaborne domestic cargo in terms of volume was coal. The coastal movement of coal, which was only one-fourth the volume of that of POL, was confined largely to the Black Sea and Far Eastern basins. The coastal movement of ore, which is comparable in volume to that of coal, took place almost entirely within the Black Sea basin. The movement of timber in coastal navigation came close in terms of volume to the movements of coal and ore. About three-fourths of this movement took place in the Far Eastern and Northern basins and included timber in rafts towed at sea as well as timber loaded on ships. Next in importance were mineral construction materials, most of which were moved in the Baltic, Black, and Far Eastern basins.

The intercoastal movement of Soviet seaborne domestic cargo, an example of which is the movement of POL from ports on the Black Sea to Vladivostok in the Far Eastern basin, is shown in Table 3.** The volume of intercoastal movement in 1956 was less than one-fiftieth of that of coastal movement, although the average length of haul was far greater. The only other distinguishable intercoastal movement besides that of POL was the movement of salt from the Baltic to the Northern basin and the movement of timber in the reverse direction.

* Table 2 follows on p. 6.

** Table 3 follows on p. 7.

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Table 2

Volume of Cargo Moved by the Soviet Maritime Cargo Fleet
in Coastal Navigation, by Sea Basin and by Specific Type of Cargo a/
1956

Million Metric Tons						
Type of Cargo	Basin					Total
	Baltic Sea	Black Sea	Far Eastern	Northern	Caspian Sea	
Liquid						
POL		4.9	0.9		15.2	21.0
Fresh water					0.4	0.4
Subtotal		<u>4.9</u>	<u>0.9</u>		<u>15.6</u>	<u>21.4</u>
Dry						
Coal	0.2	2.7	1.8	0.6		5.3
Ore		5.0				5.0
Timber	0.8		1.5	1.3	0.2	3.8
Grain		0.5	0.3		0.5	1.3
Mineral construction materials	0.7	1.3	0.9		0.1	3.0
Cement		0.3	0.2			0.5
Sugar		0.3				0.3
Cotton					0.1	0.1
Metals			0.2			0.2
Chemicals					0.2	0.2
Machinery and metal products			0.3			0.3
Industrial goods			0.3			0.3
Consumer goods			0.3			0.3
Salt	0.1		0.1		0.1	0.3
Fish			0.2			0.2
Miscellaneous	0.2	0.9	0.6	0.6	0.3	2.6
Subtotal	<u>2.0</u>	<u>11.0</u>	<u>6.7</u>	<u>2.5</u>	<u>1.5</u>	<u>23.7</u>
Total	<u>2.0</u>	<u>15.9</u>	<u>7.6</u>	<u>2.5</u>	<u>17.1</u>	<u>45.1</u>

a. Figures are from Tables 7, 8, 9, 10, and 11, Appendix A, pp. 15, 16, 17, 18, and 19, respectively, below.

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Table 3

Volume of Cargo Moved by the Soviet Maritime Cargo Fleet
in Intercoastal Navigation
by Sea Basin of Origin and by Specific Type of Cargo a/
1956

					Million Metric Tons
<u>Type of Cargo</u>	<u>Basin</u>				<u>Total</u>
	<u>Baltic Sea</u>	<u>Black Sea</u>	<u>Far Eastern</u>	<u>Northern</u>	
Liquid (all POL)		0.2			0.2
Dry					
Timber				0.1	0.1
Salt	0.1				0.1
Miscellaneous	0.1	0.2	0.1		0.4
Subtotal	<u>0.2</u>	<u>0.2</u>	<u>0.1</u>	<u>0.1</u>	<u>0.6</u>
Total	<u>0.2</u>	<u>0.4</u>	<u>0.1</u>	<u>0.1</u>	<u>0.8</u>

a. Figures are from Tables 7, 8, 9, 10, and 11, Appendix A, pp. 15, 16, 17, 18, and 19, respectively, below.

IV. Soviet Seaborne Foreign Trade*

During 1956, 53.6 percent of the Soviet seaborne cargo in foreign trade (import-export cargo) of the USSR was carried in foreign vessels and 46.4 percent in Soviet vessels. Table 4** shows the volume carried by Soviet and foreign vessels, by major type of cargo.

Tables 5 and 6*** expand the data presented in Table 4. Table 5 is a breakdown of Soviet seaborne exports by sea basin of origin and by specific type of cargo, and Table 6 is a breakdown of Soviet seaborne imports by sea basin of destination and by specific type of cargo. The largest volumes of seaborne foreign trade passed through the ports of the Black and Baltic Sea basins. The division of individual commodity movement between Soviet and foreign vessels is not available. It is clear, however, that the entire amount of liquid cargo transported on foreign vessels consisted of POL.

* See Figure 2, following p. 8.

** Table 4 follows on p. 8.

*** Tables 5 and 6 follow on pp. 9 and 10, respectively, below.

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Table 4

Volume of Soviet Seaborne Cargo in Foreign Trade
 Moved by Soviet and Foreign Vessels
 by Major Type of Cargo
 1956

Million Metric Tons			
	(1)	(2)	(3)
	<u>Major Type of Cargo</u>		
<u>Vessels</u>	<u>Liquid</u>	<u>Dry</u>	<u>Total</u>
Soviet	2.8 <u>a/</u>	5.7 <u>b/</u>	8.5 <u>c/</u>
Foreign	2.8 <u>a/</u>	7.0 <u>b/</u>	9.8 <u>d/</u>
Total	<u>5.6</u>	<u>12.7</u>	<u>18.3 e/</u>

a. See Appendix A, p. 13, below.

b. The difference between column (3) and column (1).

c. This figure is 46.4 percent of the total (18.3 million tons 5/).

d. Obtained by subtracting the cargo carried in Soviet vessels from the total Soviet seaborne cargo.

e. See Tables 5 and 6, pp. 9 and 10, respectively, below.

POL accounted for approximately one-third of the total Soviet seaborne export cargo and was the most outstanding single export commodity, with more than double the volume of the second most important export commodity, coal. During 1956, all POL exports originated in the Black Sea. The largest volume went to Western Europe, and lesser quantities went to North Africa, the European Satellites, and Communist China.*

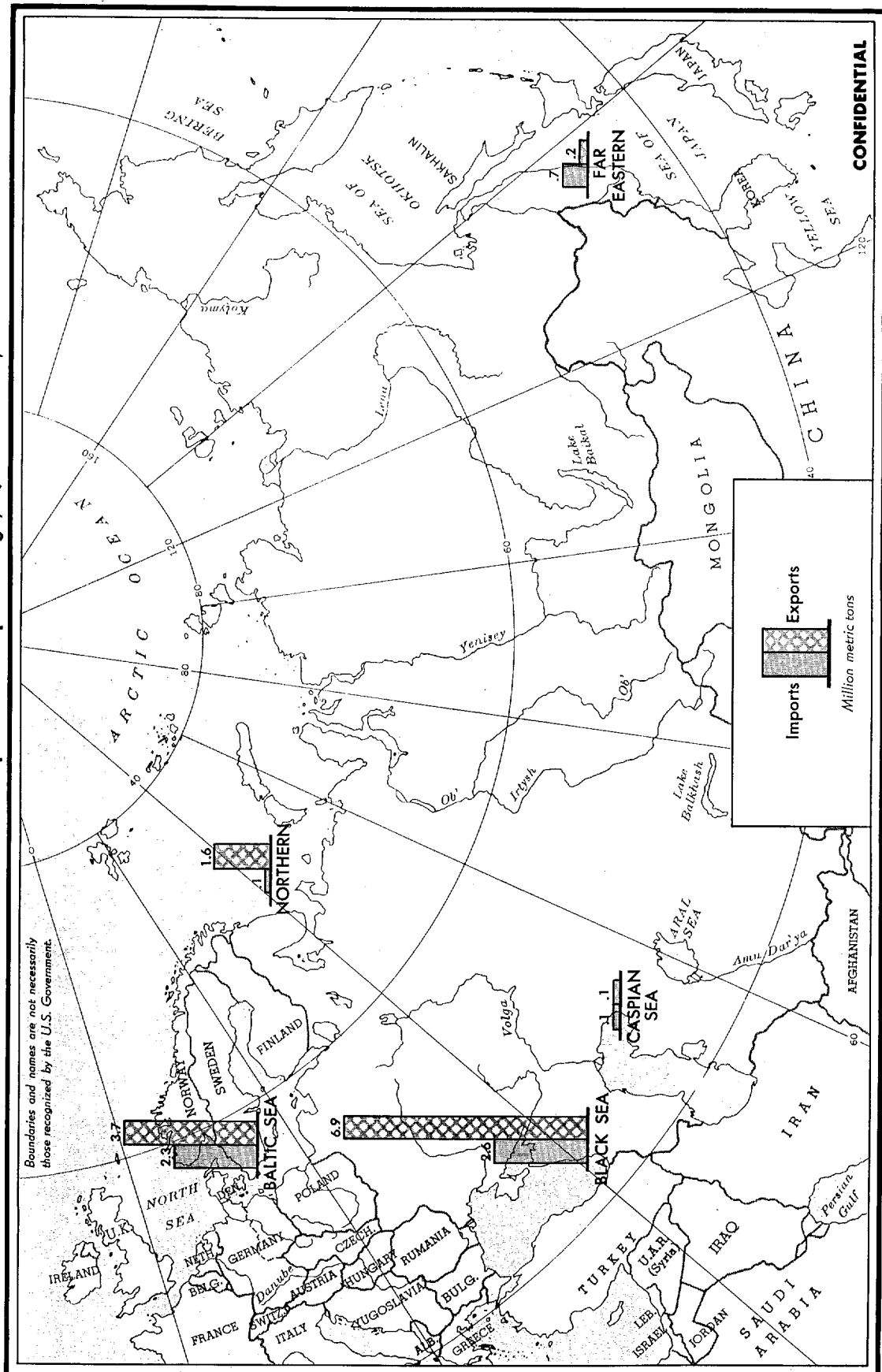
Two-thirds of the Soviet exports of coal originated in the Baltic basin and were destined for Western Europe and the European Satellites. A small amount of coal was exported to Japan from the Far Eastern basin, and the remainder moved from the Black Sea to Western Europe and the European Satellites.

* See Appendix A, p. 13, below.

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Figure 2

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Volume of Soviet Seaborne Import and Export Cargo, by Sea Basin, 1956



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Table 5

Volume of Soviet Seaborne Export Cargo
by Sea Basin of Origin and by Specific Type of Cargo a/
1956

Million Metric Tons						
Type of Cargo	Basin					Total
	Baltic Sea	Black Sea	Far Eastern	Northern	Caspian Sea	
Liquid (all POL)		3.9				3.9
Dry						
Coal	1.3	0.5	0.1			1.9
Ore		1.3				1.3
Timber	0.8			0.8		1.6
Grain	0.5	0.1				0.6
Metals	0.6	0.3				0.9
Chemicals	0.2					0.2
Apatite				0.7		0.7
Miscellaneous	0.3	0.8	0.1	0.1	0.1	1.4
Subtotal	<u>3.7</u>	<u>3.0</u>	<u>0.2</u>	<u>1.6</u>	<u>0.1</u>	<u>8.6</u>
Total	<u>3.7</u>	<u>6.9</u>	<u>0.2</u>	<u>1.6</u>	<u>0.1</u>	<u>12.5</u>

a. Figures are from Tables 7, 8, 9, 10, and 11, Appendix A, pp. 15, 16, 17, 18, and 19, respectively, below.

Other important export commodities included timber for Western Europe and the European Satellites, half of which originated in the Baltic basin and half in the Northern basin; chromium and manganese ore for Western Europe and the Satellites and iron ore for the Satellites, all of which originated in the Black Sea basin; apatite for Western Europe and the Satellites, which originated in the Northern basin; and grain, four-fifths of which moved from the Baltic basin to Western Europe and the Satellites and one-fifth from the Black Sea basin to Western Europe, the Satellites, and Egypt.

Table 6* shows that the volume of Soviet seaborne import cargo in 1956 was approximately one-third of the total volume of Soviet seaborne

* P. 10, below.

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Table 6

Volume of Soviet Seaborne Import Cargo
by Sea Basin of Destination and by Specific Type of Cargo a/
1956

Million Metric Tons						
Type of Cargo	Basin					Total
	Baltic Sea	Black Sea	Far Eastern	Northern	Caspian Sea	
Liquid (all POL)		1.5	0.2			1.7
Dry						
Coal	1.2		0.2			1.4
Ore		0.3				0.3
Grain			0.1			0.1
Sugar	0.3	0.2				0.5
Metals	0.1					0.1
Chemicals	0.1					0.1
Machinery and metal products	0.1					0.1
Salt			0.1			0.1
Fish	0.2					0.2
Miscellaneous	0.3	0.6	0.1	0.1	0.1	1.2
Subtotal	2.3	<u>1.1</u>	<u>0.5</u>	<u>0.1</u>	<u>0.1</u>	<u>4.1</u>
Total	<u>2.3</u>	<u>2.6</u>	<u>0.7</u>	<u>0.1</u>	<u>0.1</u>	<u>5.8</u>

a. Figures are from Tables 7, 8, 9, 10, and 11, Appendix A, pp. 15, 16, 17, 18, and 19, respectively, below.

foreign trade. As in the case of exports, POL and coal were the most important commodities. The POL moved from Rumania and Albania to ports on the Black Sea and from Rumania to the Soviet Far East, and the coal moved from Poland to ports on the Baltic Sea and from Communist China to the Soviet Far East. Sugar, ore, and fish also figured prominently. The sugar moved from Cuba and Poland to ports on the Baltic Sea and from Cuba to ports on the Black Sea. Imports of ore consisted largely of bauxite from Greece, which was shipped to the Black Sea basin. Imports of fish moved from Iceland and Norway to ports on the Baltic.

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Tables in Appendix A show the movement of Soviet seaborne cargo in each of the five sea basins,* by class of navigation and by commodity. Table 12** summarizes the data in these tables.

* See Appendix A, Tables 7, 8, 9, 10, and 11, pp. 15, 16, 17, 18, and 19, respectively, below.

** P. 20, below.

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APPENDIX B

GAPS IN INTELLIGENCE

The largest single gap in intelligence revealed in compiling this research aid is the lack of information for any of the other postwar years as detailed as that available for 1956. Thus it is extremely difficult to measure growth or recognize trends in the pattern of cargo movements.

This statement does not mean that there are no gaps in the information for 1956. Information is required in areas where conflicts were encountered between figures from Kantorovich and figures from other sources and where there is a need for additional data to substantiate figures from Kantorovich, particularly in the case of coastal navigation.

The areas of conflict in which more complete and definite data would be valuable include the total volume of foreign trade cargo, which conflicting sources indicate to be as much as 2.0 million tons higher than the volume of 18.3 million tons obtained by the methodology employed in this research aid; the volume of export POL moving out of the Black Sea, which Kantorovich indicated to be considerably lower than is indicated by [REDACTED] and foreign trade data; and the total volume of cargo moved on the Caspian Sea, which statements of the Minister of the Maritime Fleet indicated to be more than 3.0 million tons higher than the volume used in this research aid. 26/

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For foreign trade with the Free World -- and to a lesser extent for Soviet intercoastal shipments, Soviet foreign interport shipments, and Soviet foreign trade with the Sino-Soviet Bloc -- a considerable body of material is available that could be used to supplement and substantiate the data in this research aid. This body of material consists of information on voyages available in Lloyd's publications, in publications of both the Bloc and the Free World, [REDACTED]

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[REDACTED] The exploitation of this material would provide a valuable sample of the commodity movements involved and would very likely make it possible to determine which cargo movements besides POL involved the greatest dependence on chartered foreign vessels.

[REDACTED]

25X1B

C-O-N-F-I-D-E-N-T-I-A-L

C-O-N-F-I-D-E-N-T-I-A-L

APPENDIX C

SOURCE REFERENCES

Evaluations, following the classification entry and designated "Eval.," have the following significance:

<u>Source of Information</u>	<u>Information</u>
Doc. - Documentary	1 - Confirmed by other sources
A - Completely reliable	2 - Probably true
B - Usually reliable	3 - Possibly true
C - Fairly reliable	4 - Doubtful
D - Not usually reliable	5 - Probably false
E - Not reliable	6 - Cannot be judged
F - Cannot be judged	

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluations "Documentary."

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this research aid. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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C-O-N-F-I-D-E-N-T-I-A-L

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11. Vodnyy transport, 13 May 58. U. Eval. RR 2.
12. Kantorovich, op. cit. (8, above).
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23. [REDACTED]
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25X1A

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